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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,893	07/03/2003	Satoshi Kondo	740819-1011	3671

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EXAMINER
COUSO, JOSE L

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>03 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/3/03</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1.   Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claim 9, lines 1-3 recite "the predetermined time is obtained by dividing a

recordable time by a predefined maximum number of, the total recordable time being..."

which is vague and indefinite since there appears to be missing text after "a predefined

number of". It appears to the examiner, from reading the specification, that applicant

inadvertently left-out the term VOBs.

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> **(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

3.   Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by

Yamaguchi et al. (U.S. Patent No. 5,737,022).

With regard to claim 1, Yamaguchi describes compression coding means for

compressing and coding an input video signal (see figure 18, element 540 and refer for

example to column 17, lines 43-48); scene change detecting means for detecting a

scene change from the input video signal (see figure 18, element 520 and refer for

example to column 17, lines 23-36, the still scene occurs in intra-frames which

Yamaguchi discusses in column 18, lines 43-63); and resolution changing means for

changing a resolution of the input video signal synchronously with the scene change

(see figure 18, element 530 and refer for example to column 17, lines 37-42). The resolution of the input video signal is changed synchronously with the scene change because when the scene change is detected a signal is sent to the resolution changing means (refer for example to column 17, lines 31-34).

As to claim 2, Yamaguchi describes compression coding means for compressing and coding an input video signal (see figure 18, element 540 and refer for example to column 17, lines 43-48); still scene detecting means for detecting a still scene from the input video signal (see figure 18, element 520 and refer for example to column 17, lines 23-36); and resolution changing means for changing a resolution of the input video signal when the still scene is detected (see figure 18, element 530 and refer for example to column 17, lines 37-42). The resolution of the input video signal is changed synchronously with the scene change because when the scene change is detected a signal is sent to the resolution changing means (refer for example to column 17, lines 31-34).

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaye et al. (U.S. Patent No. 6,259,733).

With regard to claim 1, Kaye describes compression coding means for compressing and coding an input video signal (see figure 1, elements 140, 150 and 160 and refer for example to column 4, lines 52-64); scene change detecting means for detecting a scene change from the input video signal (see figure 3B, element 338 and refer for example to column 7, lines 47-50); and resolution changing means for changing a resolution of the input video signal synchronously with the scene change

(see figure 3B, element 334 and refer for example to column 7, lines 37-47). The resolution and the scene change operate synchronously because both are detected and utilized by the central control simultaneously (see figure 1, element 170 and refer for example to column 4, lines 46-64).

As to claim 2, Kaye describes compression coding means for compressing and coding an input video signal (see figure 1, elements 140, 150 and 160 and refer for example to column 4, lines 52-64); still scene detecting means for detecting a still scene from the input video signal (see figure 3B, element 338 and refer for example to column 7, lines 47-50, the still scene occurs in intra-frames which Kaye discusses in column 6, line 62 through column 7, lines 16); and resolution changing means for changing a resolution of the input video signal when the still scene is detected (see figure 3B, element 334 and refer for example to column 7, lines 37-47). The resolution and the scene change operate synchronously because both are detected and utilized by the central control simultaneously (see figure 1, element 170 and refer for example to column 4, lines 46-64).

With regard to claim 3, Kaye describes compression coding means for outputting an MPEG stream by compressing and coding an input video signal (see figure 1, elements 140, 150 and 160 and refer for example to column 4, lines 52-64, column 5, lines 21-26 [which discusses the MPEG-4 standard], and column 6, lines 59-65 [which discusses the MPEG-2 standard]); and resolution changing means for changing the resolution of the input video signal (see figure 3B, element 334 and refer for example to column 7, lines 36-50), wherein the compression coding means includes means for

determining a GOP (group of pictures) structure of the MPEG stream (see figure 2,

element 255 and figure 3B, element 326 and refer for example to column 5, lines 61-65

and column 6, lines 59-60), and wherein when the resolution is changed, GOPs are also

changed substantially at the same time (see figure 1, element 170 and refer for example

to column 4, lines 46-64, the resolution and the GOPs are changed at the same time

because both are detected and utilized by the central control simultaneously).

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaye

et al. (U.S. Patent No. 6,259,733) in view of Tsuji et al. (U.S. Patent No. 6,507,615).

The arguments advanced in section 4 above, as to the applicability of Kaye, are

incorporated herein.

Although Kaye does not expressly describe wherein the GOP structure

determining means makes the GOP, which starts just after the resolution has been

changed, a closed GOP that does not refer to a previous GOP, such a technique is well

known and widely utilized in the prior art.

Tsuji discloses a video signal processing apparatus and video signal processing

method which describes coding video signal using resolution and scene changes and

which utilizes GOPs, wherein the GOP structure determining means makes the GOP,

which starts just after the resolution has been changed, a closed GOP that does not

refer to a previous GOP (see figures 11A-B and refer for example to column 13, lines 8-

28).

Given the teachings of the two references and the same environment of

operation, namely that of compression of images using GOPs (groups of pictures), one

of ordinary skill in the art at the time the invention was made would have been led in an

obvious fashion to provide for the GOP structure determining means makes the GOP,

which starts just after the resolution has been changed, a closed GOP that does not

refer to a previous GOP as taught by Tsuji in the Kaye system since both systems are

primarily concerned with compression of images using scene changes. This is an

engineering design, providing for an increased data transmission rate and more

efficiently coded images thereby improving the quality of the images as suggested by

Tsuji (refer for example to column 1, lines 50-56 and column 2, lines 55-64), which fails

to patentably distinguish over the prior art absent some novel and unexpected result.

7.   Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaye

et al. (U.S. Patent No. 6,259,733) in view of Wilkinson (U.S. Patent No. 6,160,844).

The arguments advanced in section 4 above, as to the applicability of Kaye, are

incorporated herein.

Although Kaye does not expressly describe wherein the GOP structure

determining means makes the GOP, which starts just after the resolution has been

changed, begin with an I (intra) frame, such a technique is well known and widely

utilized in the prior art.

Wilkinson discloses a processing digitally encoded signals system which

describes coding video signal using resolution and scene changes and which utilizes

GOPs, wherein the GOP structure determining means makes the GOP, which starts just

after the resolution has been changed, begin with an I (intra) frame (see figure 10 and

refer for example to column 9, line 51 through column 14, line 27) .

Given the teachings of the two references and the same environment of

operation, namely that of compression of images using GOPs (groups of pictures), one

of ordinary skill in the art at the time the invention was made would have been led in an

obvious fashion to provide for the GOP structure determining means makes the GOP,

which starts just after the resolution has been changed, begin with an I (intra) frame as

taught by Wilkinson in the Kaye system since both systems are primarily concerned with

compression of images using scene changes. This is an engineering design, providing

for an efficient data transmission rate and efficiently coding images as suggested by

Wilkinson (refer for example to column 6, lines 1-11), which fails to patentably

distinguish over the prior art absent some novel and unexpected result.

8.   Claims 6-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kaye et al. (U.S. Patent No. 6,259,733) in view of Nagumo et al. (U.S. Patent No.

6,400,768).

The arguments advanced in section 4 above, as to the applicability of Kaye, are incorporated herein.

Although Kaye does not expressly describe wherein the compression coding means further includes means for changing VOBs (video objects), each said VOB being made up of the GOPs, and wherein when the resolution is changed, the VOBs are also changed substantially at the same time, such a technique is well known and widely utilized in the prior art.

Nagumo discloses a picture encoding apparatus, picture encoding method, picture decoding apparatus, picture decoding method and presentation medium which describes compressing video objects using resolution and scene changes and which utilizes changing VOBs (video objects), each said VOB being made up of the GOPs, and wherein when the resolution is changed, the VOBs are also changed substantially at the same time (see figures 3, 9, 11A-B and 12A-B and refer for example to column 19, lines 16-65 and column 22, line 49 through column 23, line 25) .

Given the teachings of the two references and the same environment of operation, namely that of compression of images using both GOPs (groups of pictures) and VOPs (video objects), one of ordinary skill in the art at the time the invention was made would have been led in an obvious fashion to provide for changing VOBs (video objects), each said VOB being made up of the GOPs, and wherein when the resolution is changed, the VOBs are also changed substantially at the same time as taught by Nagumo in the Kaye system since both systems are primarily concerned with compression of images using scene changes. This is an engineering design, providing

for a high performance dynamic rate allocation system that quickly and accurately allocates bit rate as suggested by Nagumo (refer for example to column 1, lines 35-66), which fails to patentably distinguish over the prior art absent some novel and unexpected result.

With regard to claim 7, Nagumo describes wherein the VOB changing means stops changing the VOBs when the number of the VOBs reaches a predetermined maximum number (refer for example to column 15, lines 9-58). The cited portion of the reference discusses various examples which suggest VOB changing stops when a predetermined maximum number is reached.

As to claim 8, Nagumo describes wherein once the VOB changing means has changed the VOBs, the VOB changing means will not change the VOBs again until a predetermined time has passed (refer for example to column 31, lines 10-25).

As to claim 11, Nagumo describes wherein in changing the VOBs, the VOB changing means inserts an end code, which represents the end of the former VOB, into the MPEG stream (see figure 18 and refer column 29, lines 30-34).

9.   Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is an examiner's statement of reasons for allowance: The prior art of the record fail to teach or suggest singly and/or in combination an image coding apparatus having compression coding means, resolution changing means, wherein the compression coding means includes means for determining a GOP (group of pictures) structure of the MPEG stream and when the resolution is changed, GOP are also changed substantially at the same time, means for changing VOBs (video objects), when the resolution is changed, GOP are also changed substantially at the same time, wherein once the VOB changing means has changed the VOBs it will not change the VOBs again until a predetermined time has passed, the predetermined time is obtained by dividing a total recordable time by a predefined maximum number of VOBs or dividing a remaining recordable time by a difference between a predefined maximum number of VOBs and the number of VOBs already recorded, the remaining recordable time being obtained by dividing an available capacity of a storage medium on which t he MPEG stream should be recorded by a target average rate of the MPEG stream as prescribed for in the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

12.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        Botsford, III et al., Kuzma, Kakagawa et al, Lee et al., Kondo et al. and Mori all

disclose systems similar to applicant's claimed invention.

13.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Jose L. Couso whose telephone number is (703) 305-
4774. The examiner can normally be reached on Monday through Friday from 6:30 to
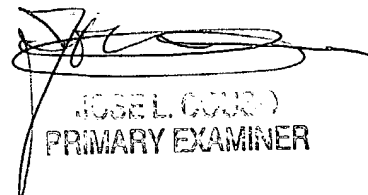3:00.
        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number
for the organization where this application or proceeding is assigned is (703) 872-9306.
        Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703) 305-
8576.
        Information regarding the status of an application may be obtained from the
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Jlc
October 13, 2004

JOSE L. COUSO
PRIMARY EXAMINER